Mercury TMDL Implementation Plan

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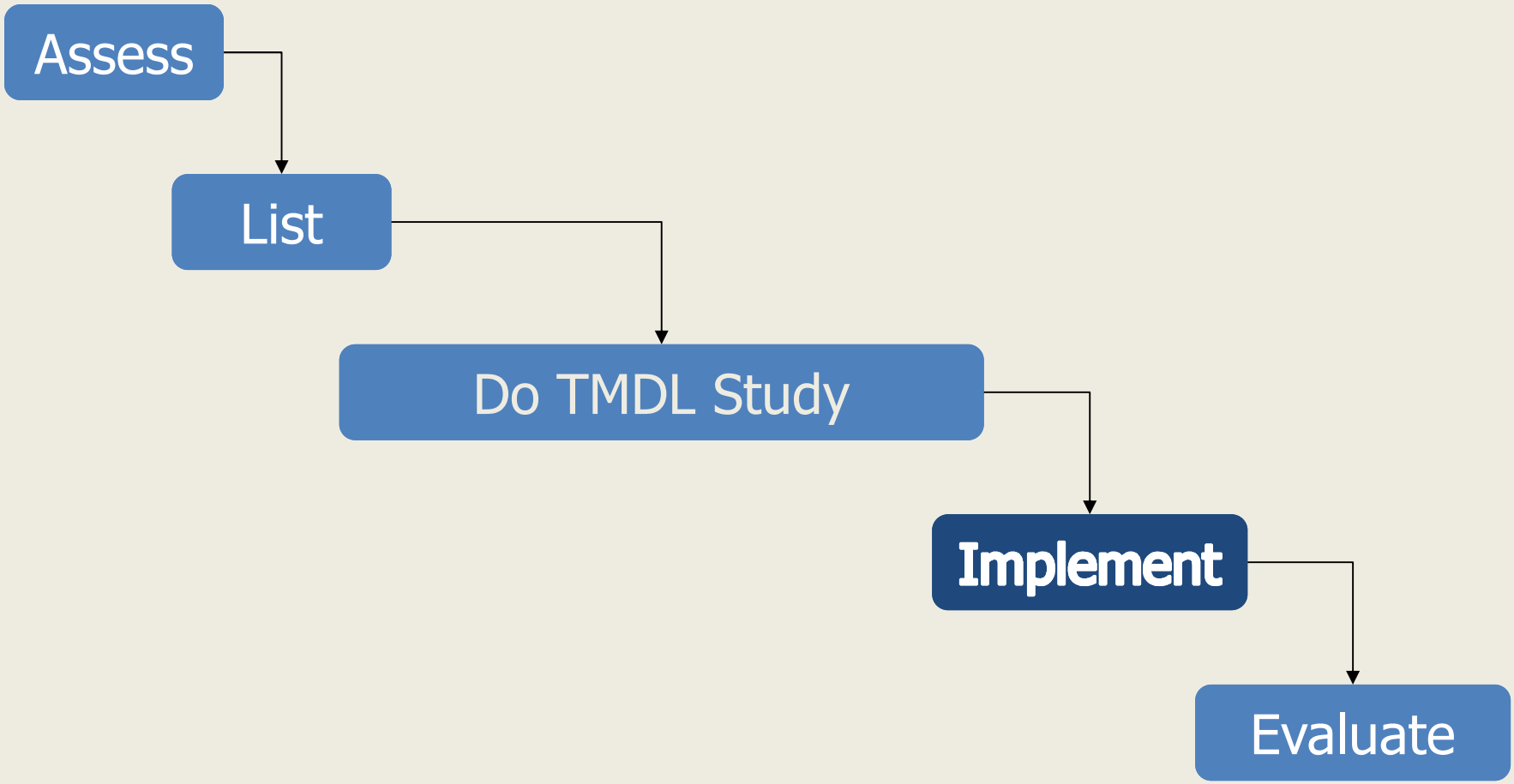
The Impaired Waters Process



Hg TMDL

- Creates No New Regulatory Authority
- Water Point Sources addressed in Water Quality Permits
- Air Emission Sources as Non-Point Sources agree to meet commitments, without new permit authority
- Stakeholder Group

Implementation Planning Process

- June 2007 – May 2008
- MEI convened and facilitated stakeholder-recommended strategies to meet TMDL goals
- Two-tiered stakeholder engagement
  - group of 17 met 16 times during year
  - all known stakeholders invited to attend two input sessions and comment on drafts.

Objectives of Stakeholder Planning Phase

- Water - Ensure that total statewide mercury discharges remain below 24 lb/yr
- Air - Strategies for meeting MN share of air emission goal (789 lb/yr)
- 70-90% reductions from nearly all source categories
  - How to address new air sources
  - Acknowledgement that Hg emissions would fluctuate through 2025

Water Strategy Highlights

Strategy to keep point-source discharges below 24 lb/yr

- Current discharges 15 lb, allowing 9 lb for growth
- Specifies process for distributing “unallocated load”

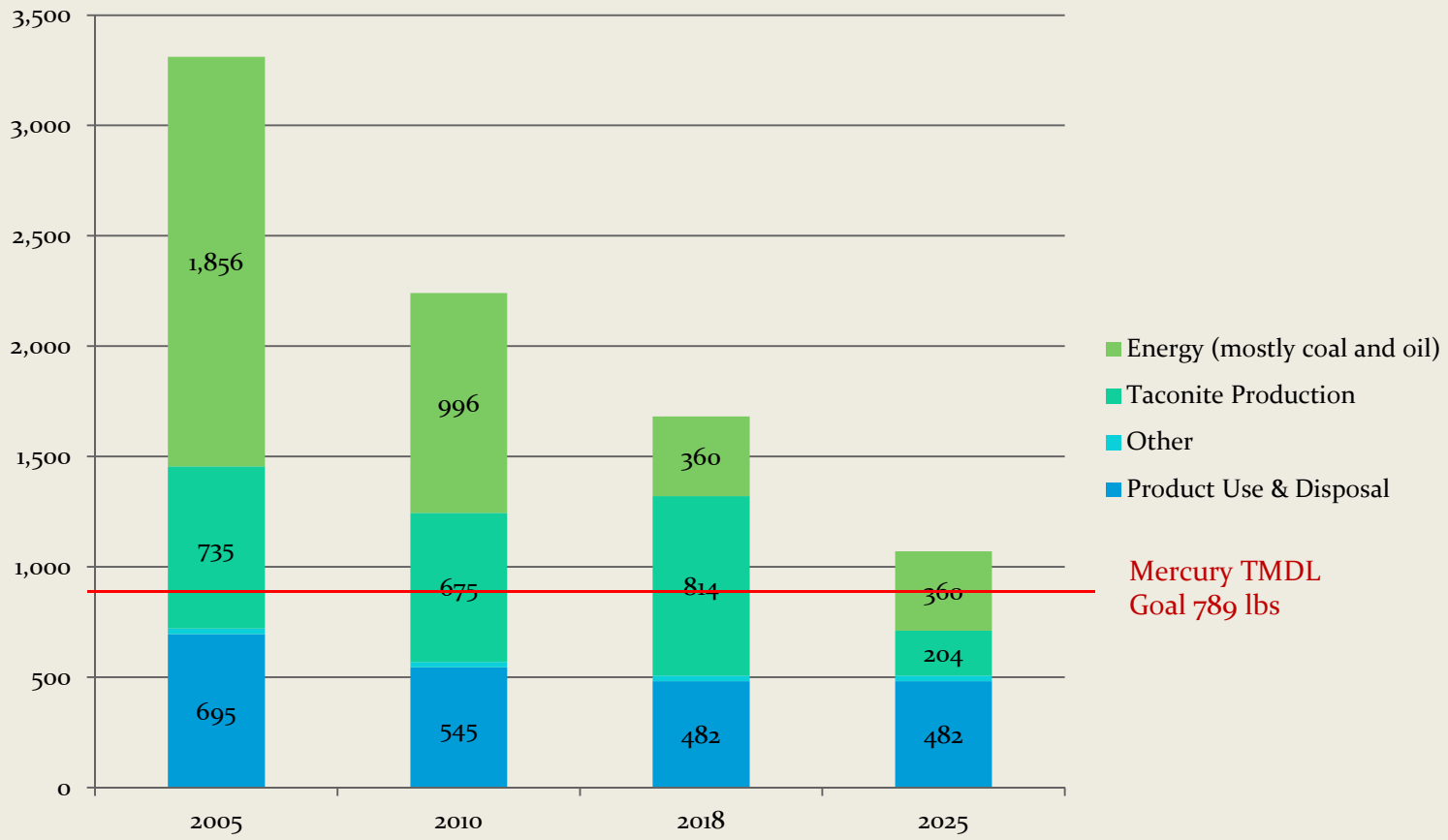
Watershed management

- More analysis/research to determine effects of water level fluctuations

Reductions from Existing Air Sources

- Sources with MPCA Permit
  - require reduction plan
  - incorporate into permit or enforceable agreement
  - proposed mercury rule
- “Point” Sources without MPCA Permit
  - improve emission estimate
  - voluntary reduction first, more later if needed
- Product-related Sources
  - Pollution prevention
  - Improved management
  - Education and outreach

MN mercury from sectors



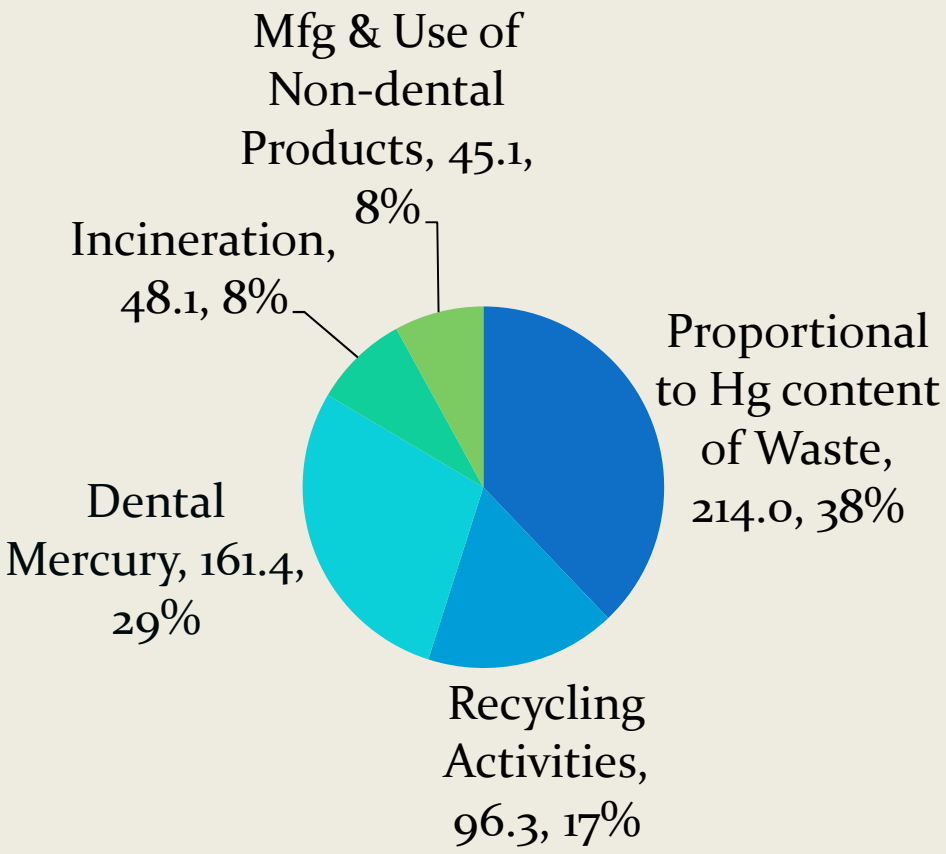
National Anthropogenic Mercury Emissions and Projections

	2005 Hg (tons)	2016 Base Hg(tons)
• Electric Generating Units	53	27
• Portland Cement Manufacturing	7.5	1.1
• Steel Manufacturing: Electric Arc Furnaces	7.0	4.6
• Industrial, Commercial, Institutional Boilers,	6.4	4.6
• Chemical Manufacturing	3.3	3.3
• Hazardous Waste Incineration	3.2	2.1
• Mercury Cell Chlor-Alkali Plants	3.1	0.3
• Gold Mining	2.5	0.7
• Municipal Waste Combustors	2.3	2.3
• Sum of other source categories (each of which emits less than 2 tons)	17	16
• **Total**	**105**	**62**

Mining Sector Commitments

- Complete medium and longer term testing of identified mercury-reduction technologies (2013)
- Begin the first full-scale installation of mercury emission control equipment (2014)
- Provide schedule for implementation at all other existing furnaces by 2016.

Product Use and Disposal



New and Modified Sources

- Employ best control available
- Complete environmental review
- Assess potential impact on sector goal
- For facilities with > 3 lb (after controls):
  - arrange for “equivalent reduction” in state
  - Propose “alternative mitigation strategy”

Mercury Rule Making

Mercury Inventory and Reduction Plans

- Scope: Annual inventory, periodic monitoring, reduction plans for existing sources w/o control requirements
- Schedule:
  - Draft Rule Summer 2012
  - Publish for Public Comment – December 2012

More Information

- Minnesota Pollution Control Agency web site:
  - Implementation Plan: www.pca.state.mn.us/air/mercury-reductionplan.html
  - TMDL: www.pca.state.mn.us/water/tmdl/tmdl-mercuryplan.html